SONY

3-786-993-21(1)

Video Multi Color Corrector

XV-C900

Operating Instructions page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Mode d'emploi page 21

Avant la mise en service de cet appareil, prière de lire attentivement ce mode d'emploi que l'on conservera pour toute référence ultérieure.

Manual de instrucciones página 39

Antes de utilizar la unidad, lea este manual detenidamente y consérvelo para futuras referencias.

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English

Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. XV-C900 Serial No._____

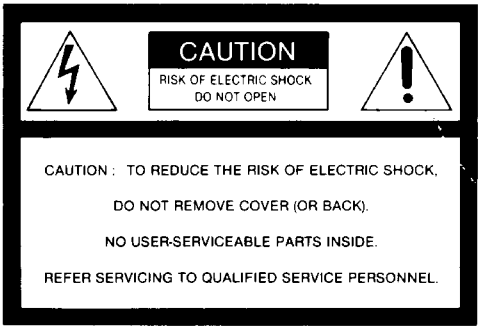
For customers in Canada

CAUTION:
TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS UNIT'S POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION for customers in the USA
This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—reorient this receiving antenna
—relocate this equipment with respect to the receiver
—move this equipment away from the receiver
—plug this equipment into a different outlet so that equipment and receiver are on different branch circuits. If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV interference Problems. This booklet is available from the U.S. Government printing Office,
Washington, DC 20402, Stock No. 004-000-00345-4.

Table of Contents

This manual is divided into four main parts: "Introduction", "Getting Started", "Operation" and "A Bit of Technical Stuff". The "Introduction" provides an outline of the functions XV-C900 offers. "Getting Started" shows you how to set up a video editing system. Refer to "Operation" for further details on each function. If you are interested in technical details, read "A Bit of Technical Stuff".

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Features

This unit enables you to adjust and correct color while editing a pre-recorded video tape or during camera recording. Its wide variety of functions will greatly enhance joy of video making.

Color correction using joystick-type controllers
Two joystick-type controllers allow continuous compensation of the white and black balances. Press the WIDE RANGE buttons if a greater range of correction is needed.

Hue/color adjustment
Adjusts the hue and color intensity of video images.

Color bar generator
You can adjust the monitor while displaying a color bar on the screen and record it on a video tape.

Gamma compensation
You can adjust the luminous intensity of the screen without destroying the outlines of a recorded object.

Negative/positive reversing
A negative color film can be reversed and recorded on a video tape.

Wiper and background color generator
You can use the WIPE lever to produce 15 different wiper effects either up and down or left and right. Wiping the screen in circle or diamond is also possible. There are eight separate background colors available in addition to the color bar.

Video/audio fader
You can control fade in/out of image and sound, together or separately, with a single lever operation. Video fade in/out is possible either in white, black or a selected background color.

Auto wipe/fader
Professional-looking smooth wiping and fading is possible at the desired speed.

Video art
You can tint the video image with the desired color. The tinting can be performed either from the brighter or darker portions of the image.

Audio mixing
The unit allows editing of sound as well as the video image.

Split screen
You can split the screen into two halves, displaying an unprocessed video image on one half and a processed video image on the other in order to compare color correction effects.

Chroma NR (noise reduction)
Reduces color flickers caused by repeated editing.

Precautions

On safety
- Operate the unit on AC 120V, 60Hz.
- Should any object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- Unplug the unit from the wall outlet if it is not going to be used for an extended period of time. To disconnect the cord, pull it out while holding the plug. Never pull the cord itself.

On installation
- Allow adequate air circulation to prevent internal heat build-up.
- Do not install the unit near a heart source such as a radiator or air duct or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Do not place any heavy object on the unit.

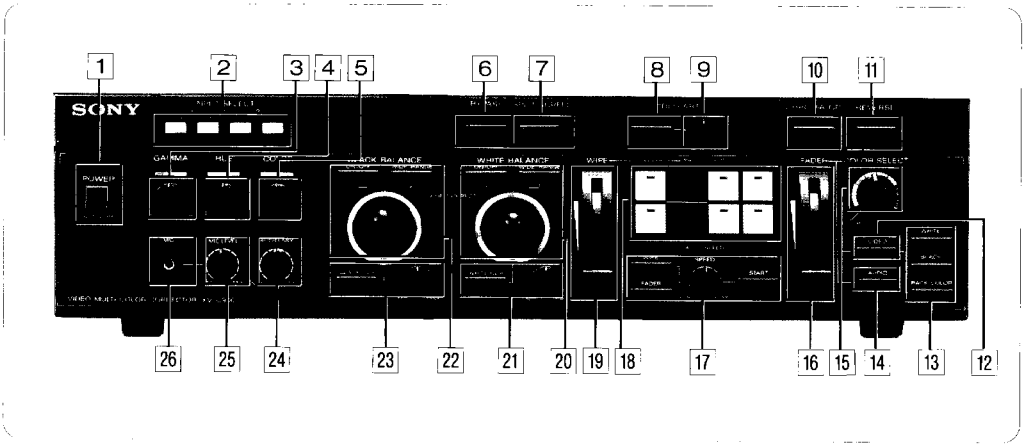
On cleaning
Clean the cabinet, panel and controls with a soft dry cloth or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

On repacking
Do not throw away the carton and packing materials. They make an ideal container for transporting the unit. When shipping the unit to another location, repack it as illustrated on the carton.

Location and Function of Controls

Front panel

Each button or switch (except POWER) is equipped with an indicator which lights up when turned on. To turn the indicator off, simply press it again.



1 POWER switch

2 INPUT SELECT buttons
Select the desired input source. Two video and audio channels 1 and 2, are available. On each channel, S-VIDEO selects the VCR connected to the S-VIDEO SOURCE IN, and VIDEO selects the VCR connected to the V SOURCE IN connector.

3 GAMMA control
Adjusts the luminous intensity and color signals to give the recorded object a suitable brightness.

4 HUE control
Adjusts the hue.

5 COLOR control
Adjusts the color intensity.

6 BYPASS switch
Outputs unprocessed video signals.

7 SPLIT SCREEN switch
Divides the screen to display the processed video image on the left half and the unprocessed video image on the right.

8 VIDEO ART REVERSE switch
Selects where to start painting the image, from either high (off) or low (on) luminance portions of the image.

9 VIDEO ART control
Controls the painting of the video image with color selected by the COLOR SELECT knob. To use the video art function, set the WIPE lever all the way up and operate this control.
This control should normally be set to the rightmost (maximum) position, otherwise the wipe will not function.

10 CHROMA NR (noise reduction) switch
Reduces color flickers in the image.

11 REVERSE (NEGA/POSI) switch
Inverts the output signal.

12 Fader VIDEO button
Enables video fade in/out using the FADER lever.

13 Video fader WHITE/BLACK/BACK COLOR buttons
Selects either white, black or the back color designated by the COLOR SELECT knob as the fader color. (Default selection is white.)

14 Fader AUDIO button
Enables audio fade in/out using the FADER lever.

15 COLOR SELECT knob
Selects a color for wipe and video fader.

16 FADER lever
Controls the video and audio fade in/out. This lever should normally be kept at the lowermost position for both video and audio. Press the VIDEO button and move the lever up to fade out the screen in the fader color designated by the WHITE/BLACK/BACK COLOR buttons. Move it down to fade in. Press the AUDIO button and move the lever up to fade out the audio sound. Move it down to fade in.

17 AUTO WIPE/FADER buttons, SPEED control and START button
Allow automatic wipe and fade in/out. The speed can be adjusted using the SPEED control. Press the START button to begin.

18 WIPE PATTERN buttons
Select the wipe pattern.

19 WIPE lever
Wipes the screen with the color selected by the COLOR SELECT knob.

20 WHITE BALANCE ON/OFF and WIDE RANGE switches
Enable the white balance adjustment.
Press the WIDE RANGE switch to widen the range of white balance control.

21 WHITE CLIP switch and control
Compensate color with bright segments of the image to make white objects look normal. Set the compensation level using the control. Turning it clockwise increases the level.
The white clip function is disabled when the WHITE BALANCE switch is turned off.

22 BLACK BALANCE ON/OFF and WIDE RANGE switches
Enable black balance adjustment.
Press the WIDE RANGE switch to widen the range of black balance control.

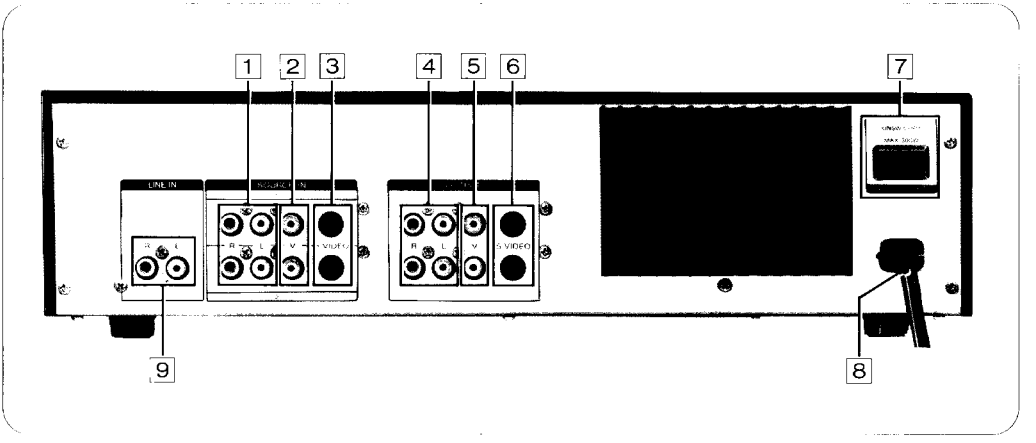
23 BLACK CLIP switch
Compensates color with dark segments of the image to make black objects look normal. Set the compensation level using the control. Turning it clockwise increases the level.
The black clip function is disabled when the BLACK BALANCE switch is turned off.

24 AUDIO MIX control
Controls the mixing level of audio signals input from SOURCE IN and LINE IN jacks.

25 MIC (microphone) LEVEL control
Controls the level of sound input from the MIC jack.

26 MIC jack (minijack)
Accepts a microphone.

Rear panel



1 Audio R/L SOURCE IN 1/2 jacks (phono)
Connect to the audio output jacks of a monitor, VCR, video camera recorder or other video equipment.

2 V(ideo) SOURCE IN 1/2 jacks (phono)
Connect to the video output jacks of a monitor, VCR, video camera recorder or other video equipment.

3 S-VIDEO SOURCE IN 1/2 connectors (4-pin mini DIN)
Connect to the S-video output connector of a monitor, VCR, video camera recorder or other video equipment.

4 Audio R/L OUTPUT jacks (phono)
Connect to the audio input jacks of a VCR, video camera recorder or other video equipment. The same signal is output to both upper and lower row jacks.

5 V(ideo) OUTPUT jacks (phono)
Connect to the video input jacks of a VCR, video camera recorder or other video equipment. The same signal is output to both upper and lower jacks.

6 S-VIDEO OUTPUT connectors (4-pin mini DIN)
Connect to the S-video input connector of a VCR, video camera recorder or other video equipment. The same signal is output to both upper and lower connectors.

7 AC OUTLET (auxiliary power supply)
This unswitched outlet supplies AC power to video or audio equipment with power consumption under 300 watts.

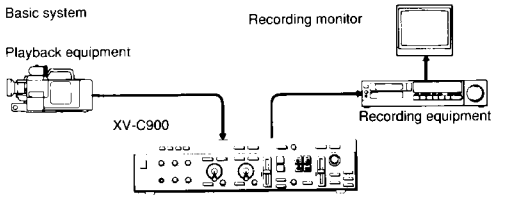
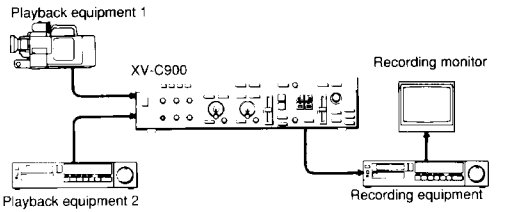
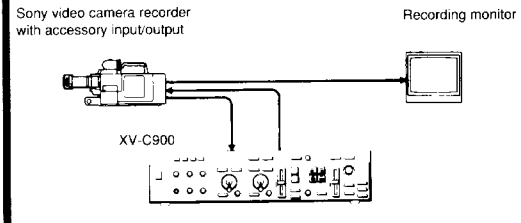
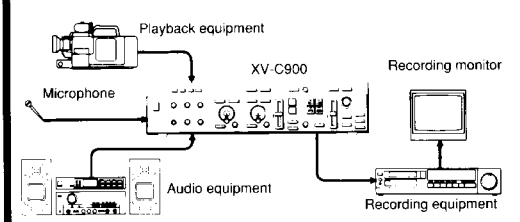
Caution

Never connect a device whose power consumption exceeds 300 watts to this auxiliary AC outlet.

8 Power cord
Connect to an AC 120V wall outlet.

9 LINE IN jacks (phono)
Connect to the line output jacks of a stereo amplifier when mixing sound.

Quick Guide to Connections

Source Side / Recorder side	What XV-C900 can do	
	• Color adjustment and correction while editing a prerecorded tape • Wiper and fader functions (These functions are also available with the following connections as well as this	8
	• Editing while monitoring two different sources	17
	• Color adjustment and correction while camera recording • Reversing a negative film to record as a positive video image	14
	• Mixing music and narrations with the soundtrack of a prerecorded tape while editing.	16

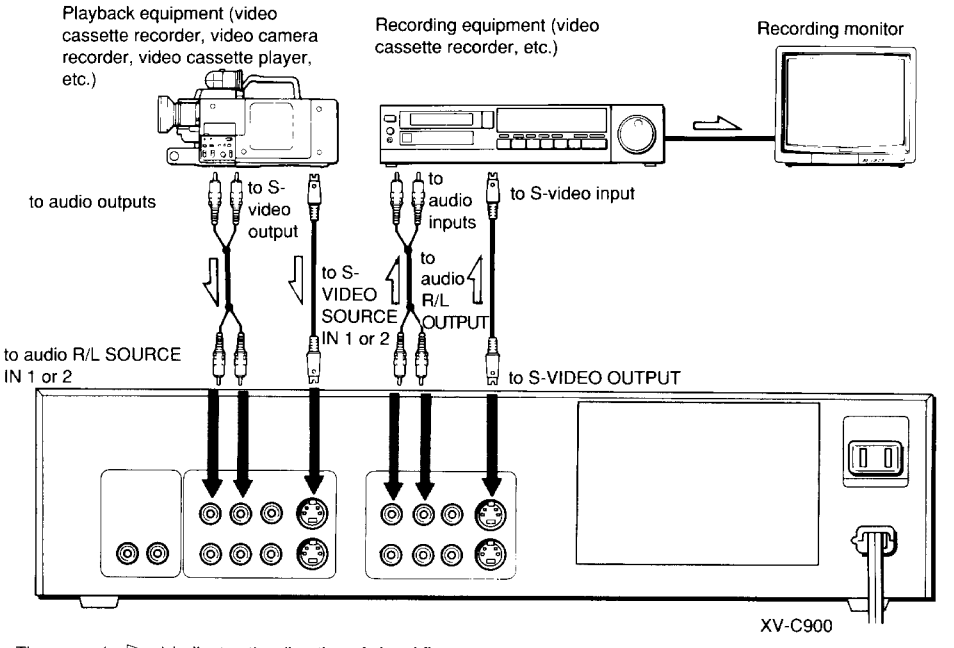
Caution
Television programs, films, video tapes and other materials may be subject to copyright laws. Unauthorized duplication of such material may be

Connections

Relationship Between Input and Output Channels

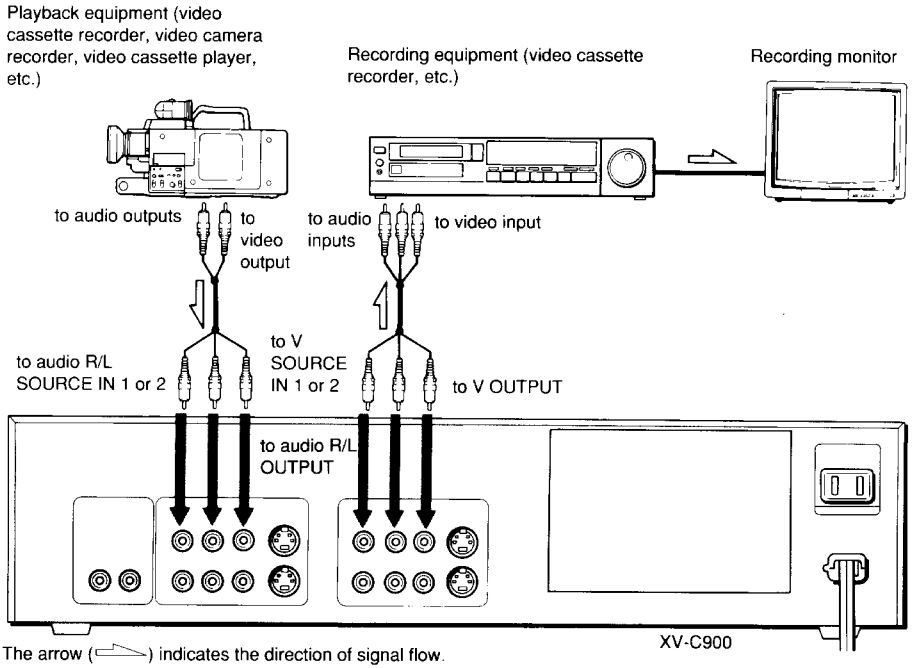
The XV-C900 has two source input channels 1 and 2. You can select either channel using the INPUT SELECT buttons. The selected input source signal is sent to both the OUTPUT channels providing flexibility in connection. Connecting a monitor to one output channel and video recording equipment to the other allows you to check the exact effects of various color correction functions while recording.

Connecting using the S-video connector

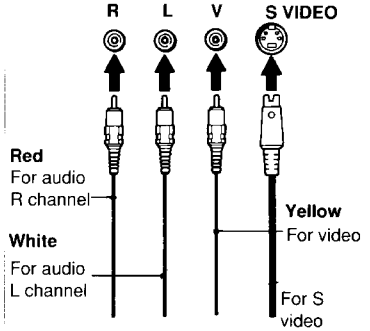

Playback equipment (video cassette recorder, video camera recorder, video cassette player, etc.)
Recording equipment (video cassette recorder, etc.)
Recording monitor
to audio outputs
to S-video output
to audio inputs
to S-video input
to S-VIDEO SOURCE IN 1 or 2
to audio R/L OUTPUT
to audio R/L SOURCE IN 1 or 2
to S-VIDEO OUTPUT
XV-C900

The arrow (⇨) indicates the direction of signal flow.

Connecting using the video connector


Playback equipment (video cassette recorder, video camera recorder, video cassette player, etc.)
Recording equipment (video cassette recorder, etc.)
Recording monitor
to audio outputs
to video output
to audio inputs
to video input
to audio R/L SOURCE IN 1 or 2
to V SOURCE IN 1 or 2
to V OUTPUT
to audio R/L OUTPUT
XV-C900
The arrow (⇨) indicates the direction of signal flow.

Notes on optional connecting cables



- Disconnect the power from all units prior to making any connections.
- Make sure all cable connectors are firmly inserted into the jacks.
- This unit has the following types of connecting jacks. Make sure colors match when using colored connecting cables.

Optional connecting cables

For S-video connection (4 pin mini DIN) (4 pin mini DIN)
YC-15V, YC-15EV (1.5 m)
YC-30V, YC-30EV (3 m)

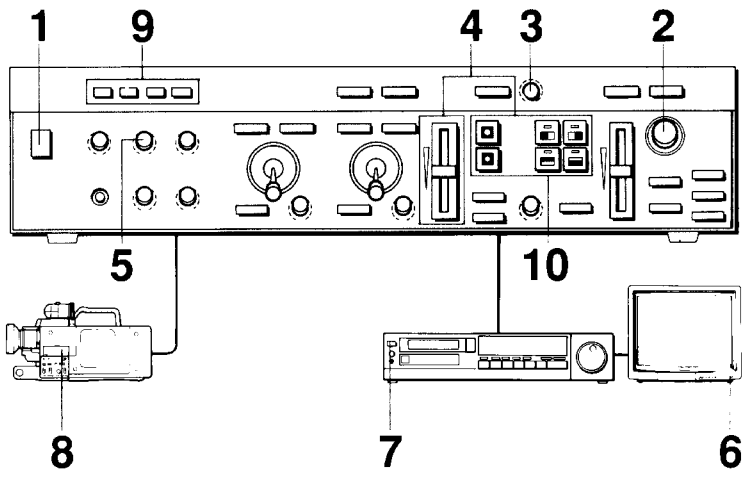
For stereo video equipment (phono plugs) (phono plugs)
VMC-810S (1 m)
VMC-820S (2 m)

For monaural video equipment (phono plugs) (phono plugs)
VMC-910MS (1 m)
VMC-920MS (2 m)

For stereo audio equipment (phono plugs) (phono plugs)
RK-74A (1.5 m)

Monitor Adjustment and Preparation

Before beginning color correction using XV-C900, adjust your monitor so that colors appearing on the monitor screen will not be deceptive.



1 Turn on the color corrector.

2 Set the COLOR SELECT knob to COLOR BAR.

3 Turn the VIDEO ART knob fully to MAX.

4 Press one of the WIPE PATTER buttons and move the WIPE lever to its uppermost position.

5 Set the HUE control to its center click position.

6 Turn on the TV/monitor and select the appropriate input so that the color bar appears on the screen.

7 Turn on the recording VCR. If desired, record the color bar at the beginning of a tape for monitor color adjustment during future playback.

8 Turn on the playback VCR.

9 Press the appropriate INPUT SELECT button.

10 Press any activated WIPE PATTERN button (with the lamp lit) to turn it off. The color bar disappears.

Adjusting brightness

- Turn the monitor's color control to the minimum so that the color bar appears in black and white.
- Turn the monitor's brightness control until the eight bars are clearly distinguished.

Adjusting color intensity and hue

Adjust the monitor's color and hue controls until all eight colors appear normal. (Refer to the color bar photograph G on the reference sheet.)

Caution

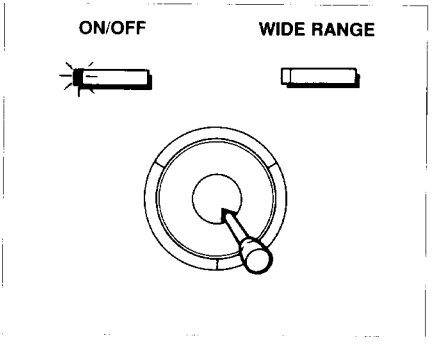
When recording the color bar or using it to adjust the color on the monitor, make sure that the power of the playback VCR is turned off. Signals being input from the SOURCE IN jacks may distort the color bar.

Color Adjustment and Correction During Editing

Insert a prerecorded tape into the playback VCR, begin playback and adjust color using the functions listed below. Refer to the photographs provided on the attached color reference sheet.

White/Black Balance

To make "supposed-to-be white" objects look properly white A
Press the WHITE BALANCE ON/OFF switch and move the lever.



This allows color correction of the video image's bright portions.

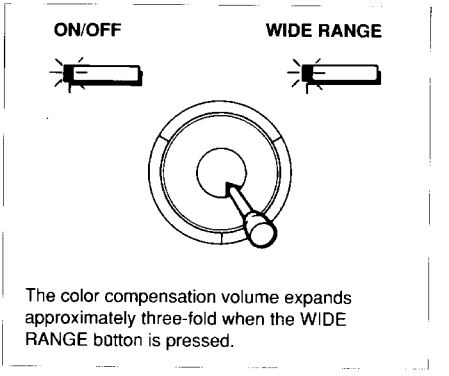
To make "supposed-to-be black" objects look properly black B
Press the BLACK BALANCE ON/OFF switch and move the lever.
This allows color correction of the video image's dark portions.

You can even create special color effects with this function. C
A color screen can be changed gradually to monochrome or a monochrome screen gradually to color. Setting the COLOR control to the leftmost position (minimum) may provide better results.

Note
The desired color may not be generated if a video source without burst signals is input (from a monochrome video camera, etc.)

Wide Range

For a greater range of corrections
Press the WIDE RANGE switch(es) and move the WHITE (BLACK) BALANCE lever(s).



The color compensation volume expands approximately three-fold when the WIDE RANGE button is pressed.

Note
Certain TV sets have a muting function which may cause the screen to go blank when noise-ridden pictures, such as high-speed picture search images, are processed by this unit.

White/Black Clip

Compensating color with bright (dark) segments of the image

When the video image is adjusted referring to a color other than white or black, white and black objects may not appear natural. Even in that case, the WHITE (BLACK) CLIP function allows you to compensate color with the white (black) segments of an excessively bright (dark) screen.

Press the WHITE (BLACK) CLIP switch. Adjust the white (black) balance compensation level using the control. Turn the control fully to the right to maximize the compensation level. When it is set to the leftmost position (minimum), the level is the same as when the WHITE (BLACK) CLIP switch is turned off. Both the switch and control do not function when the WHITE (BLACK) BALANCE ON/OFF switch is turned off.

Note

In normal circumstances, use the unit with this switch turned off.

Color Control

Adjusting color intensity D

- Turn the control clockwise to obtain a deeper color.
- Turn the control counterclockwise to obtain a lighter color.
- In normal circumstances, set this control to the center click position.

Gamma Control

Correcting pictures that are either too bright or dark E

- To brighten a dark subject on a bright background, turn the GAMMA control towards HIGH.
- To make a bright subject on a dark background easier to see, turn the control towards LOW.
- In normal circumstances, set the control at the center click position.

Hue Control

Adjusting the hue

- Turn the control clockwise to intensify green.
- Turn the control counterclockwise for a purplish picture.
- In normal circumstances, set the control to the center click position.

Chroma NR (noise reduction)

Reducing color flickers F

- Turn the CHROMA NR switch on to reduce color flickering caused by repeated editing.
- This function does not affect normal images.

Other Functions

Negative/Positive Reversing

Recording a negative film onto a VCR H

A video camera recorder equipped with ACCESSORY IN/OUT jacks (such as the Sony CCD-V100/V110) can output video signals from the camera to an external device before it is recorded. Using this function together with an optional film video adaptor (such as the Sony HVT-80), XV-C900's negative/positive reverse function allows you to record a negative film on a video tape. (The optional AVM-T515V cable is needed for connection.)

1 Connect the optional AVM-T515V's twin miniplug to the ACCESSORY IN/OUT connectors of the video camera recorder, phono plug "IN" to V SOURCE IN 1 or 2, and phono plug "OUT" to one of the V OUTPUT connectors.

2 Set a negative film in the video camera recorder following the instructions for the film video adaptor.

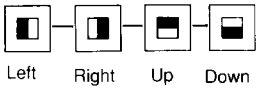
3 Press the REVERSE (NEGA/POSI) switch.

4 Carry out necessary adjustments (gamma, color, hue, etc.) while watching the image displayed on the monitor.

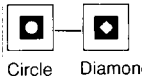
5 When all adjustments are completed, start recording on the VCR.

Wipe

Changing scenes with the desired color and pattern I



These switches may be pressed to combine.



These two can only be used separately from other wipe pattern switches.

1 Turn the VIDEO ART control fully to the right.

2 Choose one of the eight background colors (white, yellow, cyan, green, magenta, red, blue or black) or color bar using the COLOR SELECT knob.

3 Press the WIPE PATTERN button(s) to select the desired wipe pattern or direction.

4 Raising the WIPE lever causes the picture to be wiped with the selected color and pattern. Lowering the lever causes the picture to appear gradually from the colored background.

Caution

The desired wipe effect may not appear when the playback video equipment is in a variable speed playback mode (such as still and search).

Video Art

Tinting the image with the selected color, starting from either high (with VIDEO ART REVERSE switch OFF) or low (ON) luminance portions of the image. | J |

1 Set the WIPE lever to the uppermost position.

2 Press any of the WIPE PATTERN buttons.

3 Select the desired color using the COLOR SELECT knob.

4 Operate the VIDEO ART control.

Video art OUT	Video art IN
Turn the VIDEO ART control from MIN to MAX. You can gradually tint the image with the selected color. The tinting starts from brighter portions of the image when the VIDEO ART REVERSE switch is OFF, and from darker portions when it is ON.	Turn the VIDEO ART control from MAX to MIN. You can make the image gradually return to natural from a screen tinted with the selected color. Darker portions of the image first return to natural when the VIDEO ART REVERSE switch is OFF, and brighter portions first when it is ON.

Note

This video art function is coupled with WIPE. Make sure that the WIPE lever is set to the uppermost position. Otherwise the desired video art effects canot be obtained.

Fader

Gradual "fade in" of picture and/or sound at the beginning and "fade out" at the end of the recording | K |

Video fade in/out	Audio fade in/out
1 Press the VIDEO button.	1 Press the AUDIO button.
2 Press the WHITE, BLACK or BACK COLOR button to select the fader color. When BACK COLOR is selected, the video image fades out to, or fades in from, the color designated by the COLOR SELECT knob. (WHITE provides a lighter white color than that selected by the COLOR SELECT knob.)	2 Raise the FADER lever fade out and lower it to fade in.
3 Raise the FADER lever to fade out and lower it to fade in.	

Auto Wipe/Fader

Automatically wiping/fading at the desired speed
This function provides smooth wiping and/or fading at the desired speed.

Automatic wiping

1 Select a wipe pattern using the WIPE PATTERN buttons and a background color using the COLOR SELECT knob.

2 Press the AUTO WIPE button.

3 Select the desired wipe speed using the SPEED control. Turning the control clockwise makes the wipe faster, and turning counterclockwise makes it slower.

4 Press the START button. The screen wipes out at the selected speed. Press the START button again to wipe in.

Notes
- When none of the WIPE PATTERN buttons is turned on, the automatic wiping function does not work.
- When the AUTO WIPE switch is turned on, the WIPE lever does not work.

Automatic fading

1 Press the VIDEO button.

2 Press the WHITE, BLACK or BACK COLOR button to select the fader color. When BACK COLOR is selected, the video image fades out to, or fades in from, the color designated by the COLOR SELECT knob.

3 Press the AUTO FADER button.

4 Select the desired fader speed using the SPEED control. Turning the control clockwise makes the fading faster, and turning counterclockwise makes it slower.

5 Press the START button. The screen fades out at the selected speed. Press the START button again to fade in.

Notes
- When the VIDEO button is not turned on, the automatic video fader function does not work.
- When the AUTO FADER button is turned on, the FADER lever does not work.

Audio Mixing

You can easily add a BGM and narration to the input source by connecting audio equipment (stereo amplifier, etc.) and a microphone.

1 Connect the audio equipment to the LINE IN jacks on the rear panel. When using a microphone to add narration, plug the microphone into the MIC jack on the front panel.

2 Output sound for mixing from the connected audio equipment.

3 Start playback on the source VCR.

4 Adjust the mixing level using the AUDIO MIX control. Set the control to the center position to input both the signals at their original volume levels. Turn clockwise to decrease the SOURCE IN signal volume while proportionally increasing the LINE IN signal volume. Turn counterclockwise to decrease the latter while increasing the former.
Adjust the microphone level using the MIC LEVEL control.
Monitor the level on the recording VCR to avoid a distorted sound.

Split Screen

Allows you to compare a processed image with the original. [L]
Press the SPLIT SCREEN to divide the screen into two. The processed video image is displayed on the left half and the unprocessed video image on the right.

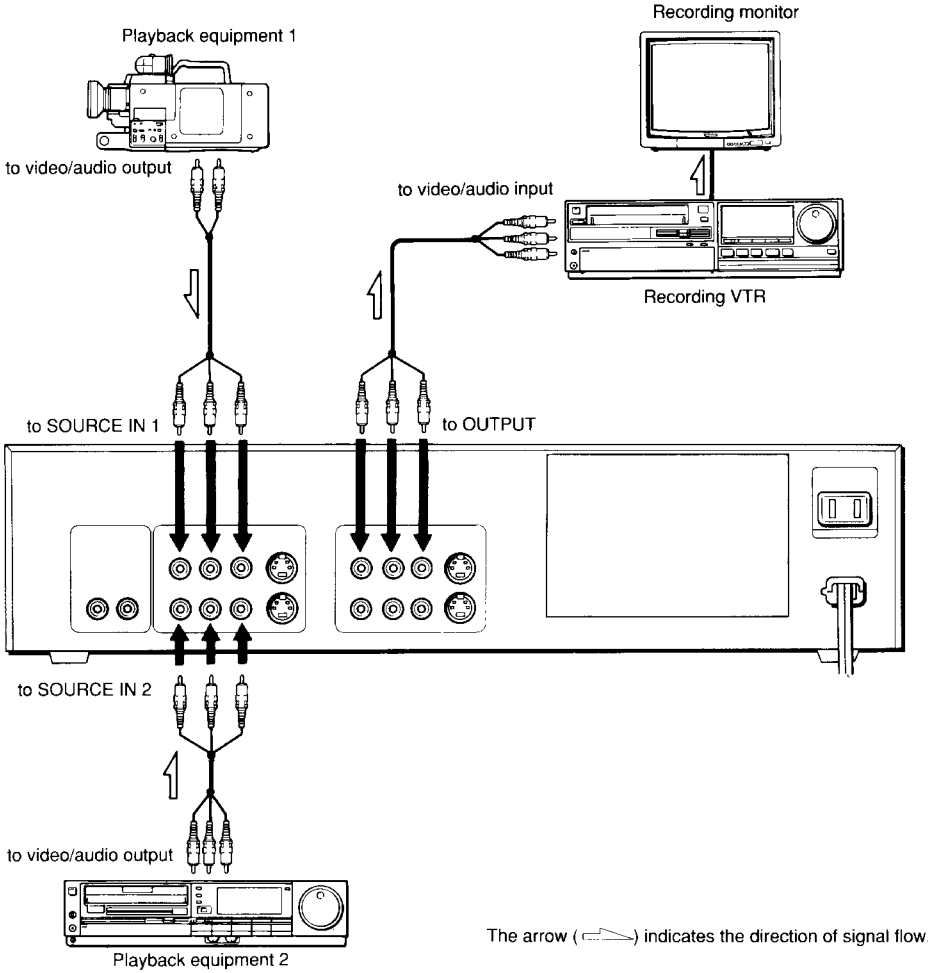
Note
Use the split screen function only for checking prior to recording. When recording is carried out with the SPLIT SCREEN switch turned on, the vertical line splitting the screen is also recorded.

BYPASS Switch

Allows you output unprocessed video signal.
Press the BYPASS switch to output loop through video signals. This function is not available for audio signals.

Editing Using Two Playback VCRs

You can edit scenes from two different video tapes into one, if two playback VCRs are connected to the unit. Select the input source to be edited using the INPUT SELECT buttons.



The arrow (⇨) indicates the direction of signal flow.

Caution

Be sure to put the recording VCR into pause mode when changing the input selection, otherwise the recorded picture may be distorted. Take the same precaution even when the screen is faded or wiped out.

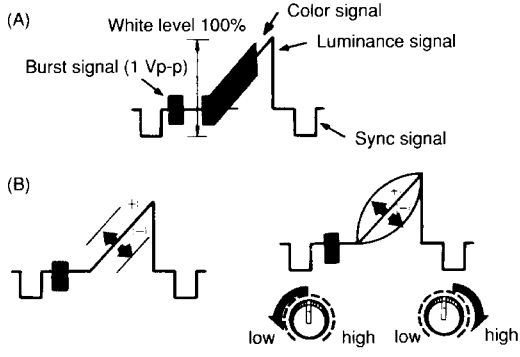
A Bit of Technical Stuff

About Y/C Separation Circuit

The S-video system provides a better quality of reproduction because it treats the luminance (Y) and color (C) signals separately while the conventional composite video signal system handles these two signals combined. The XV-C900 not only has S-video connectors but also a Y/C signal separation circuit which separates the composite video signal into Y and C signals. The composite signal input to the V SOURCE IN jack goes through this Y/C signal separation circuit and is output to the S-VIDEO OUTPUT connector as a Y/C signal. (It is also output to the V OUTPUT jack as the composite signal.) In other words, connecting a recording VCR equipped with an S-video input connector to the XV-C900's S-VIDEO OUTPUT allows recording of composite signals in the S-video system. When a Y/C signal is input to S-VIDEO SOURCE IN, on the other hand, it is combined into a composite signal and output to the V OUTPUT jack as well as a Y/C signal to S-VIDEO OUTPUT.

What is "Gamma Compensation"?

As shown in Diagram (A) below, a video signal is composed of a luminance, color, sync and color burst signals. The details of the video image are determined by the luminance signal. The GAMMA function serves to offer non-linear correction of the luminance and color signals.
Diagram (B) shows standard luminance correction. In this case, the white, black and intermediate segments turn white or black in the same ratios. This causes the subject to lack overall clarity.
Diagram (C) shows correction of the luminance signal using the GAMMA function. Turning the GAMMA control clockwise causes the high frequency zones (white) and low frequency zones (black) to stay constant while the luminance signal in the central area increases, as in the (+) area in the diagram. This results in the entire picture becoming whiter without destroying the white and black outlines. Turning the control anticlockwise causes the adjustment shown in the (–) area, with the result that the entire picture becomes darker without destroying the outlines of the subject.

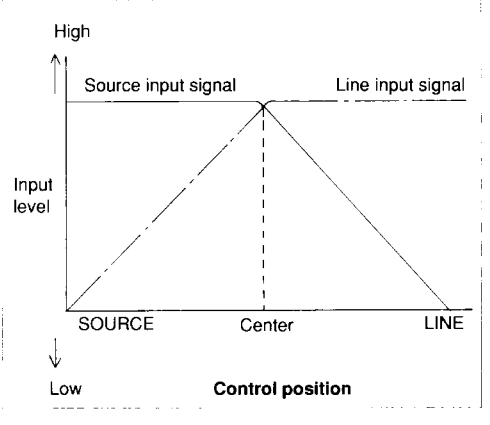


What is "Chroma NR"?

At each editing, noise elements of the color signal are amplified and recorded. After repeated editing, these noise elements cause color flickers on the screen. The XV-C900 is equipped with a filter circuit which removes noise elements from the color signal. Since this circuit only removes existing noise elements, it is effective only when a noise-ridden color signal is input. When the signal has no noise element, in other words, the picture quality does not change even if the CHROMA NR switch is turned on.

Audio Mixing Tips

The AUDIO MIX control facilitates audio editing when adding a BGM to sound recorded on a video tape. When the control is turned left from the center click position, the line input level is gradually lowered while the source sound level remains at its maximum volume. When the control is turned fully left, the line input level goes down to zero. You can gradually turn the control right to increase the BGM while maintaining the source sound level. At the center click position, both the source and line sound levels become maximum, or the same as their original volume. When turning the control further right, the source level decreases gradually while the BGM level remains constant. The diagram below shows how this mechanism works.



Sound input from the MIC jack is mixed with the source and line input sounds and output to the audio OUTPUT jacks. The MIC LEVEL control is independent from the AUDIO MIX control. You can adjust the level of microphone input separately from the source and line input sound volume.

Specifications

Video color system NTSC color EIA standard

S-video input/output
S-VIDEO SOURCE IN (4-pin mini DIN)
S-VIDEO OUTPUT (4-pin mini DIN)
Y-signal:1 Vp-p, 75 ohms, unbalanced, sync negative
C-signal:0.286 Vp-p, 75 ohms, unbalanced

Video input/output V SOURCE IN 1 and 2 (phono jacks)
V OUTPUT (phono jacks)
1 Vp-p, 75 ohms, unbalanced, sync negative

Audio input R/L SOURCE IN 1 and 2 (phono jacks)
LINE IN (phono jacks)
Input level:–7.5 dBs (0 dBs = 0.775 Vrms)
Input impedance:More than 47 kilohms
MIC (minijack)
Input level:–66 dBs
Input impedance:More than 3 kilohms

Audio output R/L OUTPUT (phono jacks)
Output level:–7.5 dBs at 47 kilohms load
Output impedance:Less than 10 kilohms

Power supply AC 120V, 60 Hz

Power consumption
39W

Auxiliary AC outlet Unswitched, maximum 300 watt

Operating temperature
5°C to 40°C (41°F to 104°F)

Storage temperature
–20°C to 60°C (–4°F to 140°F)

Dimensions 430 x 115 x 425 mm (w/h/d)
(17 x 4 5/8 x 16 3/4 inches)

Weight 7.5 kg (16 lb 9 oz)

Design and specifications subject to change without notice.

Troubleshooting

Symptom	Check points and remedies
No power	Is the power cord plugged into a wall outlet?
Color bar does not appear on the monitor screen.	• Is the BYPASS switch indicator lit? If so, press the switch to turn it off. The color bar is not output when the bypass channel is selected. • Is the VIDEO ART control set to minimum? If so, turn the control fully right when generating the color bar.
Color bar appears only half of the screen.	Is the SPLIT SCREEN indicator lit? If so, press the switch to turn it off. When the screen is divided by the split screen function, the color bar appears only on the left half of the screen.
Color bar does not appear clearly.	Is the playback equipment turned on? When a signal is being input from the SOURCE IN jacks, the color bar appears distorted. Turn off the equipment connected to the SOURCE IN jacks.
Picture of the input source does not appear on the screen.	• Is every unit correctly connected? Check all connections once more. • Have you selected the correct input source with the INPUT SELECT buttons? • Is the fader function working? If the fader VIDEO button indicator is lit, press the button to turn it off or lower the FADER lever all the way down. • Is the wiper function working? If you see any of the WIPE PATTERN buttons turned on and the WIPE lever at the uppermost position, press the button to turn the function off or lower the lever all the way down. • Is the recorder's input selector correctly set? If you have connected the monitor to the recorder, no input source picture appears on the monitor screen unless the recorder's input selector is correctly set.
No input source sound	• Is the AUDIO MIX control correctly set? Normally, set this control to SOURCE. See "Audio mixing tips" for adjustment of source and line mixing levels. • Is the fader function working? If the fader AUDIO button indicator is lit, press the switch to turn it off or lower the FADER lever all the way down.
Nothing changes on the picture when the controls are operated.	Is the BYPASS switch turned on? If so, press the switch to turn it off.
Auto fader does not work.	Is the FADER VIDEO button turned on and the fader color (WHITE, BLACK or BACK COLOR) selected? The auto fader function does not work if these switches are turned off.
Auto wipe does not work.	Has the wipe pattern been selected? At least one of the WIPE PATTERN buttons must be turned on to allow the auto wipe function to work.
A vertical line has been recorded on the edited tape	Was the SPLIT SCREEN switch turned on while recording? Use the split screen function only before beginning to record the input source.
Color correction has not been made as desired. The intended background color does not appear on the screen.	Is the input video source coming from a monochrome video camera? When the input video source does not have burst signals, color corrections cannot be made properly.